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United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

New and Rare Seed Distribution,

WASHINGTON, D. C.

FIELD PEAS.

OBJECT OF THE DISTRIBUTION.—The distribution of new and rare seeds has for its object the dissemination of new and rare crops, improved strains of staple crops, and high-grade seed of crops new to sections where the data of the Department indicate such crops to be of considerable promise. Each package contains a sufficient quantity for a preliminary trial, and where it is at all practicable the recipient is urged to use the seed for the production of stocks for future plantings. It is believed that if this practice is followed consistently it will result in a material improvement in the crops of the country. Please make a full report on the inclosed blank regarding the results you obtain with the seed.

DESCRIPTION.

The field pea (*Pisum sativum*) was early introduced from Europe, where it has been cultivated from remote times. Its preference for a cool climate limits its cultivation as a summer crop to the northern part of the United States or to high mountain valleys, which on account of their elevation possess a cool atmosphere even during the summer months. It can be grown in warm parts of the United States, especially southern California, as a winter legume. Trials made in southern Texas warrant a more extended use of it in this way. This preference for a cool climate has confined the field-pea industry on this continent very largely to Canada and given rise to the name "Canada field pea" or "Canadian pea."

The field pea is a close relative of the common garden pea, several varieties being used interchangeably as garden and field crops. The main point of difference in the two classes is the wrinkled character of the garden-pea seed, indicating a higher sugar content than the field pea. The field pea is so well known that little description is necessary. It is an annual leguminous vining plant, having both dwarf and tall varieties, which range from 18 inches to 10 feet in height. Most of the varieties have white flowers, but there are many having colored (red or pink) flowers.

VARIETIES.

Numerous varieties of the field peas are being grown in the United States and Canada, among which the Golden Vine, French June, Marrowfat, Prussian Blue, Blackeye Marrowfat, Early Britain, and Canadian Beauty are perhaps the most common, although the Potter, Concordia, Chancellor, Daniel O'Rourke, Wisconsin Blue, McKay, and Paragon are grown to a considerable extent. The Bluebell is grown locally on the Pacific coast of Washington and Oregon and is

best suited to humid climates. Among the new introductions the Kaiser is a general-purpose pea, making good yields of both seed and forage over an extended area. In the pea-growing districts of Washington, Oregon, and Idaho the Bangalia, an early variety, and the Amraoti, a medium-early variety, are recommended on account of their good seed-producing qualities, and for the localities where a small pea that will serve both as a table pea and for stock purposes is wanted the Khaba is worth a trial.

Golden Vine.—The Golden Vine is perhaps the most widely grown variety of field pea in the United States. It is a medium-early pea, having a white bloom and small white seeds, and makes good yields of both forage and seed.

French June.—This variety is often mistaken for the Golden Vine, but it is two weeks earlier in maturing and has a somewhat smaller vine. In all other characters it is similar to the Golden Vine. This is one of the best of the early varieties.

Marrowfat.—This name has been loosely applied to a group of large white-seeded varieties rather than to any definite variety. This group has white blooms and is medium to late, maturing about a week later than the Golden Vine and making large quantities of forage with fair yields of seed.

Canadian Beauty.—An early variety of the Marrowfat type, maturing at about the same time as the Golden Vine. It makes a large growth of vine and fair yields of seed.

Blackeye Marrowfat.—The seeds of the Blackeye Marrowfat are similar in appearance to the regular Marrowfat except for the black hilum. This variety matures a trifle earlier than the Marrowfat and about five days later than the Golden Vine.

Prussian Blue.—One of the "blue" seeded forms of the field pea. This also has a white bloom and is rather late, maturing about 11 days after the Golden Vine. It makes good yields of both forage and seed.

Early Britain.—The season of maturity of the Early Britain is about the same as that of the Golden Vine. The blooms, however, are colored and the seeds large and of a brown color. This variety, although not so well known as the Golden Vine and the Marrowfat, is valuable from both seed and forage standpoints.

Bangalia.—An early variety obtained from India. It has a rather small vine with colored bloom and small, dull-green seed. Valuable chiefly from a grain standpoint.

Amraoti.—A medium-early variety, also from India. It has a somewhat larger growth of vine than the Bangalia, but is not quite so prolific in seed. It has white blossoms and small, round, white seeds.

Khaba.—Medium to late, producing a rather heavy growth of vine and a fair yield of seed. Bloom, white; seed, small, round, some green in color, and others yellowish white.

Carleton.—A medium-early variety introduced from New Zealand. The Carleton makes about the same growth as the French June, but has purple blossoms and rather small, round seed which are gray in color, mottled with brown. This variety has been very successful in localities which have a low rainfall, such as eastern Oregon and Washington.

Bluebell.—A medium-late variety with "blue" seeds resembling very closely those of the Prussian Blue. The vine is short and stout, and it usually sets pods very freely under favorable conditions. It has been developed in the Puget Sound region of Washington, and is valuable under conditions of moderate to heavy rainfall or where irrigation is practiced.

Chang.—This variety was brought to the United States from China in 1908. It is a midseason pea with white blossoms and medium-sized, nearly white black-eyed seeds. The Chang field pea can be utilized as a hay crop in mixtures with oats or barley, or the seed can be harvested and sold as split peas or for poultry feed. The size of the seed is suitable for feeding squabs, and a ready market for the peas ought to be found among the pigeon and poultry growers near large cities. The variety does best in the northeastern United States, in Wisconsin, Michigan, New York, and in the New England States.

Gregory.—This is one of the group of peas having large white seeds and white blossoms. It is handled by the seed trade under the general name of Marrowfat, or Large White Marrowfat, field pea. The Gregory is one of the best of this class. It is medium to late in its maturity and makes a large growth of vines and a large yield of seed under favorable conditions.

Paragon.—The Paragon belongs to the group of varieties having white blossoms and white seeds with a black hilum, or eye. This group is generally called Blackeye Marrowfat. The Paragon is supposed to have originated in Canada as a hybrid and is quite popular there. It is a midseason pea, making large yields of seed under favorable conditions, but doing poorly in the dry regions.

SEED BED AND SEEDING.

The field pea does best in a clay-loam soil, but it is not extremely particular in this regard. An abundance of lime in the soil is advantageous. A fairly small rainfall where the temperature is low is sufficient. Low temperatures are very important for the success of the crop, very few peas being grown in the South for this reason. In the Central and Northern States one should be careful to seed the field peas as early in the spring as possible. In the Southern States they must be sown in the fall, about the time cool weather is at hand, or early enough in the spring to mature before hot weather arrives. Spring seeding in the South is usually done in January or February.

The seed of field peas weighs 60 pounds to the bushel and retails for \$1.50 to \$3.25 per bushel. The rate of seeding should vary with the size of the pea and the amount of moisture available. In humid regions or under irrigation, when the peas are seeded alone the amount of seed varies from $1\frac{1}{2}$ bushels of the small peas, like the Golden Vine, to 3 bushels of the large-seeded sorts, like the Marrowfat.

If the crop is to be used for hay the peas are nearly always seeded in mixture with some small grain, such as oats. The mixture of grain prevents the peas from lodging so badly and makes the harvesting easier. Some growers prefer the mixture even where the crop is designed for grain or pasture. Where seeded in mixtures the usual amount of seed used in the humid regions or under irrigation is 1 bushel of field peas and $1\frac{1}{2}$ bushels of oats. Under more arid conditions the quantity of grain should be decreased to 1 bushel.

Where the rainfall is extremely light it has been found advisable to plant the field pea in double rows about 6 or 7 inches apart, with 30 to 36 inches between each pair of rows, so that the peas can be cultivated during the growing season. The planting can be accomplished with an ordinary grain drill by stopping up the required number of feeds. When sown in this way 30 to 40 pounds of seed to the acre are sufficient. This method is most valuable when the peas are intended to be utilized as a grain crop.

HARVESTING.

Peas are usually harvested with a mower, an attachment being fastened to the cutter bar which raises the tangled vines from the ground. It is generally necessary to have several men follow the mower and roll the pea vines back in the swath, so that they will not be trampled the next time the mower passes through. If intended for hay, the peas are left to cure in the windrow or in bunches and then stacked or placed in hay sheds. Stacks of field peas should be protected from rain by a covering of slough grass or canvas. Where used as a grain crop they are most often thrashed in the field in order to avoid the shattering due to repeated handling. An ordinary grain thrasher may be adjusted to do the work, though a special pea or bean thrasher is better. In some sections peas are harvested by pasturing with hogs or sheep after the seed is mature. This is a cheap method of gathering the crop; but, as in all such practices, there is considerable waste. Where this method is used a rotation which brings a clean cultivated crop, like corn, after the field peas should be followed, in order to get rid of the weeds.

PUBLICATION AVAILABLE.

For further details regarding field peas, see Farmers' Bulletin 690, entitled "The Field Pea as a Forage Crop."

Approved:

Wm. A. TAYLOR,

Chief of Bureau.

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